FIFTH FIVE-YEAR REVIEW REPORT FOR SOUTH BAY ASBESTOS SUPERFUND SITE SANTA CLARA COUNTY, CALIFORNIA

PREPARED BY

U.S. Army Corps of Engineers, Seattle District

FOR

U.S. Environmental Protection Agency

Region 9

Approved by: DANA BARTON Digitally signed by DANA BARTON Date: 2020.09.21 10:07:50 -07'00'

Date:

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Executive Summary

This is the fifth Five-Year Review of the South Bay Asbestos Superfund Site located in San Jose, California. The purpose of this Five-Year Review is to determine if the remedy is protective of human health and the environment.

The South Bay Asbestos Superfund Site (Site) is located in the Alviso district of San Jose, California, at the southern edge of San Francisco Bay. The Site includes a mix of residential, commercial, light industrial and agricultural land uses, and it covers an area of 550 acres. The Five-Year Review has been prepared because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

The United States Environmental Protection Agency (EPA) signed the Record of Decision (ROD) for the Ring Levee in 1988 and the remedy was completed in 1994.

EPA signed the ROD for the Overall Site in 1989 to address asbestos contamination at three landfills and four truck yards. The Santos, Marshland, and Sainte Claire Landfills were thought to have accepted asbestos waste from an asbestos cement pipe manufacturing plant. EPA selected the following remedies for the Site to protect long-term human health and the environment:

- Paving asbestos-contaminated truck and industrial yards after soil sampling that determined the extent of necessary paving
- Monthly wet sweeping of Alviso streets
- Locating and removing obvious asbestos sources such as pipes and disposing of them in an off-site landfill
- Placing deed restrictions on landfills after verifying the adequacy of cover material pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP) Program for asbestos.
- Establishing institutional controls to ensure maintenance of remediation measures
- Routine maintenance and monitoring

EPA determined that paving four truck yards, removing and capping asbestos-contaminated soil, and wet sweeping of Alviso streets addressed the asbestos contamination.

EPA signed an Explanation of Significant Difference (ESD) on September 28, 2011, modifying the 1989 ROD remedies in two ways: wet sweeping of Alviso streets is no longer required to control asbestos in street dust, and the placement of deed restrictions is no longer required for the Marshland or Sainte Claire Landfills. EPA collected soil samples in 2004 and 2011 and determined that asbestos levels in the Sainte Claire Landfill were below the site cleanup level of one percent asbestos. The 2011 ESD also determined that the State of California institutional controls meet the deed restriction requirements in the 1989 ROD on the Marshland Landfill.

As part of the operation and maintenance of the landfill caps, EPA required Soil Management Plans for the Marshland and Santos landfills. The plans include monitoring, inspecting, reporting, notifying

government agencies and engineering requirements. EPA and state agencies must be notified prior to any redevelopment or construction activities.

The Santos and Marshland landfill caps have achieved the remedial action objectives to prevent inhalation of asbestos. The remedy for the truck yards is complete. Deed restrictions are in place at the Bixby Technology Center portion and the Summerset Mobile Estates portion of the Santos Landfill. There is a governmental control for the Legacy America Center portion of the Marshland Landfill. All landfill caps are being maintained.

The remedy at South Bay Asbestos Superfund Site is protective of human health and the environment. The asbestos exposure risk has been lowered to acceptable levels by removing asbestos containing material, installing and maintaining landfill caps, and implementing institutional controls at properties with landfill caps for asbestos containing material.

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List of Abbreviations

ARARs	applicable or relevant and appropriate requirements
bgs	below ground surface
CCR	California Code of Regulations
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
OSHA	Operational Safety and Health Administration
ROD	Record of Decision

1. Introduction

The purpose of a Five-Year Review is to evaluate the effectiveness of a remedy to determine if the remedy is protective of human health and the environment. The Five-Year Review report documents the methods, findings, and conclusions. In addition, the Five-Year Review report identifies issues found during the review and recommends addressing them.

The United States Environmental Protection Agency (EPA) is preparing this Five-Year Review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act Section 121, 40 Code of Federal Regulation Section 300.430(f)(4)(ii) of the National Contingency Plan and EPA policy.

This is the fifth Five-Year Review for the South Bay Asbestos Superfund Site (Site). The triggering action is the completion date of the previous Five-Year Review. The Five-Year Review has been prepared due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

The Site consists of the Ring Levee and the Overall Site. The Ring Levee was constructed to prevent flooding of the Alviso District and it contained locally quarried rock with naturally occurring asbestos. EPA completed an Explanation of Significant Differences (ESD) in 1993 to remove the Ring Levee, and to remove the temporary replacement levee. The Ring Levee and the temporary replacement levee were removed in 1994 and 1997, respectively. Since there was no asbestos contamination left in place, there is no requirement to conduct a Five-Year Review for the Ring Levee.

The Site includes three former landfills and four truck yards. The Marshland, Santos and Sainte Claire landfills accepted asbestos-containing material. In 2004, asbestos-contaminated soils were removed from the truck yards. Subsequently, EPA concluded that the asbestos contamination was effectively removed from the truck yards and no further action was required. In 2011, EPA completed an ESD which removed the requirement for institutional controls on Sainte Claire Landfill. The EPA determined that the asbestos level in the Sainte Claire landfill was below the action level. This Five-Year Review evaluates the remedy, operation and maintenance and deed restrictions for the Marshland and Santos Landfills in the Overall Site.

The South Bay Asbestos Superfund Site Five-Year Review began on October 3, 2019, and was led by Grace Ma of EPA Region 9, Remedial Project Manager for the Site. Participants included Kathryn Richwine, William Gardiner and Benino McKenna of the United States Army Corps of Engineers.

Table 1. Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: South Bay Asbestos Superfund Site		
EPA ID: 0902250 CERCLIS ID: CAD980894885		
Region: 9	**State:** CA	**City/County:** San Jose/Santa Clara County
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA ***[If "Other Federal Agency", enter Agency name]*:**		
Author name (Federal or State Project Manager): Grace Ma		
Author affiliation: EPA Region 9		
Review period: 10/2/2019 - 8/15/2020		
Date of site inspection: 2/4/2020		
Type of review: Statutory		
Review number: 5		
Triggering action date: 9/10/2015		
Due date *(five years after triggering action date)*: 9/15/2020		

1.1. Background

The South Bay Asbestos Superfund Site (Site) is located in the City of San Jose and County of Santa Clara in the southern extent of San Francisco Bay (Figure 1). The 550-acre Site includes the Alviso District and a mix of residential, commercial and light industrial land uses. Approximately 2,100 residents live in the Alviso District, which is part of the City of San Jose. This Site is located between Highway 237, Santa Clara, Milpitas, and new office developments to the east and northeast.

Asbestos-containing soil and rock were used to construct a ring levee to protect the low-lying areas of Alviso from flooding. In addition, Alviso landfills were thought to have received asbestos waste from an asbestos cement pipe manufacturing plant. Furthermore, local truck yards may have been contaminated with asbestos-containing soil and rock from the ring levee that had blown onto the truck yards. The South Bay Asbestos Superfund Site (Site) consists of two Operable Units: the Ring Levee (Operable Unit 1) and the Overall Site (Operable Unit 1).

Three landfills were located within the Site boundaries: the Santos, Marshland, and Sainte Claire Landfills (Figure 2). The Santos Landfill is subdivided into two separately owned parcels: the Summerset Mobile Home Estates and the Bixby Technology Center (currently known as Gold Street Tech Center). The Marshland Landfill is also known as Highway 237 Landfill. The Legacy America Center (currently known as America Center) is located on the Marshland Landfill.

The Santos and Marshland Landfills were thought to have received asbestos waste from an asbestos cement pipe manufacturing plant from 1953-1982. Several types of waste were produced at the plant and transported to the landfills, including broken asbestos/cement pipe, machine and processing waste, and asbestos fiber bags. There were reports of Alviso residents using asbestos material to fill their yards and asbestos cement pipe to drain excess water from their properties before installation of curbs and gutters (EPA 2010). In addition, some areas within the Site, such as truck yards, may have been filled with asbestos-containing soils in order to raise the elevation of their properties to improve flood protection (EPA 2010).

1.2. Physical Characteristics

The Alviso District is prone to flooding due to its low elevation and proximity to San Francisco Bay. The Guadalupe River and Coyote Creek are located to the west and northeast of Alviso and enter San Francisco Bay. In 1963, the Santa Clara Valley Water District channelized the Guadalupe River to provide greater flood flow capacity. The river and creek are under tidal influence and therefore, high tides impede discharge to the Bay. Numerous salt evaporation ponds are present between Alviso and the Bay and they impede natural drainage into the Bay (EPA 1991).

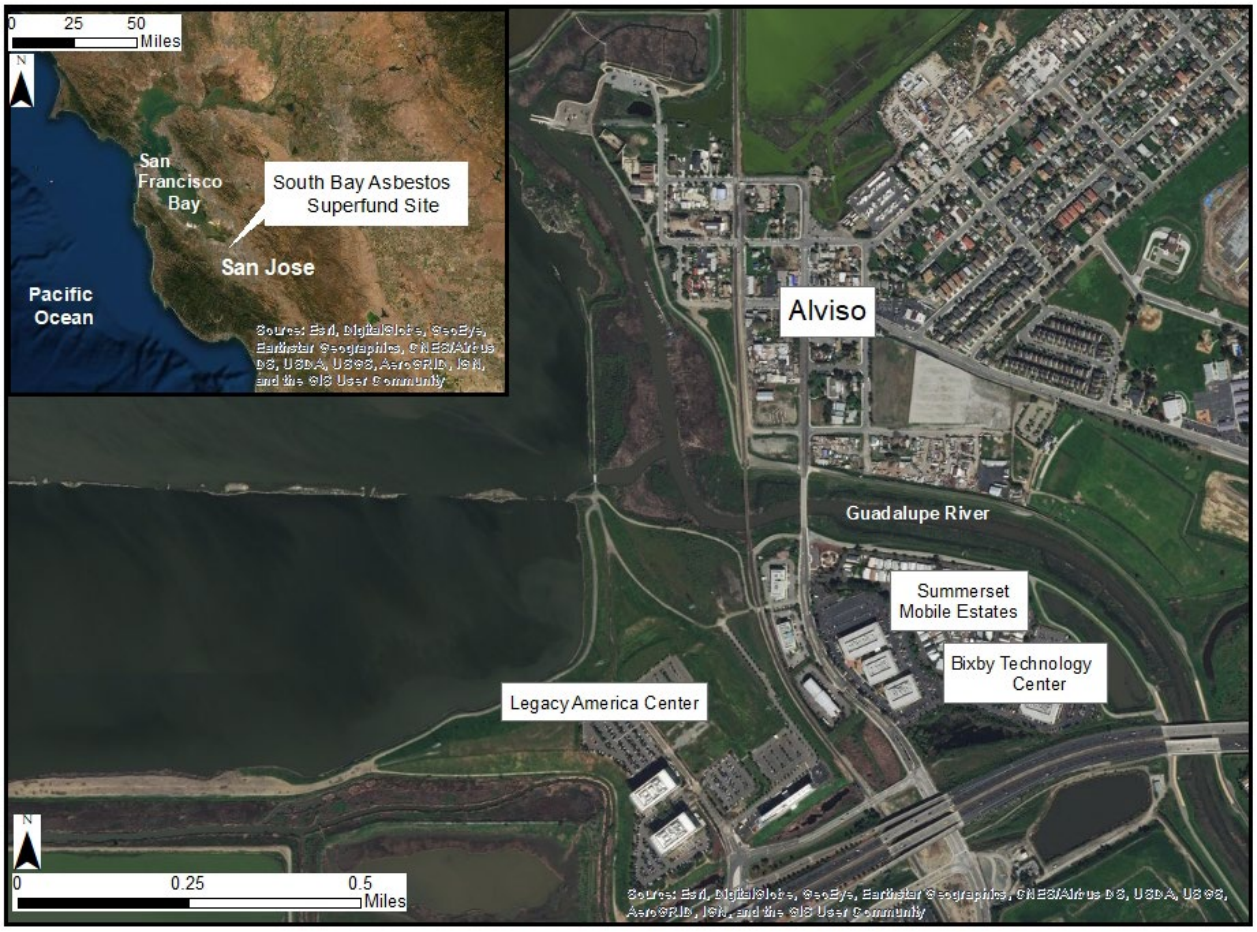

Figure 1. Location Map for the South Bay Asbestos Superfund Site

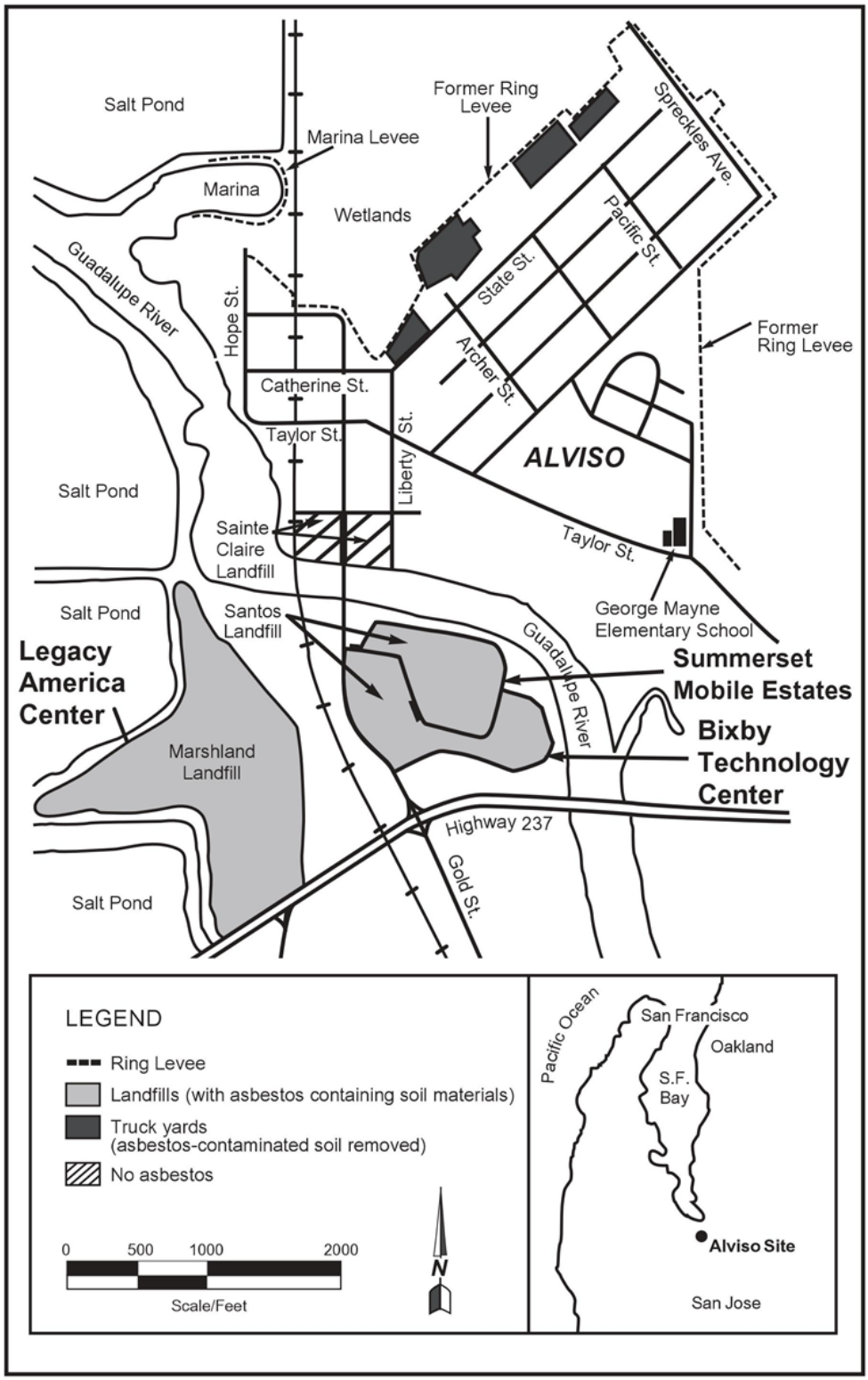

Figure 2. Detailed Map for the South Bay Asbestos Superfund Site

1.3. Hydrology

The South Bay Asbestos Superfund Site is located next to the Guadalupe River. The Guadalupe River, along with the Coyote Creek, Los Gatos Creek and Llagas Creek, forms a major drainage basin within the Santa Clara Valley. The Guadalupe River and Coyote Creek flow into San Francisco Bay immediately north of the Site. Tidal effects near the Bay make the Guadalupe River water brackish and unsuitable for beneficial use except for recreation (CDM et al. 1988). In addition, high concentrations of calcium, magnesium, and potassium were found in groundwater samples during the Remedial Investigation (CDM et al. 1988).

Santa Clara Valley aquifers are composed of unconsolidated to semi-consolidated alluvial materials derived from the surrounding mountain ranges. Tidal and marine deposits are interbedded with these alluvial materials, becoming thicker in areas near San Francisco Bay. Confined and unconfined groundwater aquifers occur in the Santa Clara Valley. Near the South Bay Asbestos Superfund Site, the native sediments are predominately fine-grained clays, silts, and sandy clays. Ancient stream channels at varying depths below the surface cut these beds of fine-grained material (EPA 2005). Wells and borings drilled for the 1988 Remedial Investigation encountered only clay and silty clay in the upper 20 to 30 feet below the site. The low permeability of the sediments resulted in very low flow rates during well sampling (CDM et al. 1988). Additional data and detailed maps are located in the 1998 Remedial Investigation report prepared for EPA by Camp Dresser and McKee.

The field investigations revealed that the groundwater table occurs between five and ten feet below ground surface (bgs) in Alviso. Groundwater flow direction at the Site is undetermined due to the flatness of the topography, the river, salt evaporation ponds, and water mounding at the Marshland Landfill (EPA 2005).

2. Remedial Actions Summary

2.1. Basis for Taking Action

EPA was concerned about the inhalation of asbestos from naturally occurring asbestos and asbestos containing materials. Asbestos is the only identified hazardous substance found at the Site.

2.2. Remedy Selection and Implementation

There are two Records of Decision for the Site: one for the Ring Levee, and one for the Overall Site. On September 29, 1988, the EPA signed the Record of Decision (ROD) to select a remedy addressing asbestos contamination in the Ring Levee. The remedy consisted of capping the Ring Levee in place. The remedial action objective of the selected remedy was to control the release of asbestos fibers from levee soils. The 1988 remedy was modified by a 1991 ROD Amendment and a 1993 Explanation of Significant Differences (ESD) to provide for removal and temporary replacement of the entire Ring Levee.

The total removal of the asbestos-containing Ring Levee was completed in 1994 and removal of a temporary replacement levee was completed in 1997. Since there was no asbestos contamination left in place, there is no requirement for conducting a Five-Year Review for the Ring Levee.

The EPA signed the ROD for the Overall Site on September 29, 1989, selecting remedies to address asbestos contamination at three landfills and four truck yards. The landfills within the Site (Santos, Marshland, and Sainte Claire Landfills) contained asbestos waste from an asbestos cement pipe manufacturing plant (Figure 1). The remedial action objective of the selected remedy was to control the release of asbestos.

The remedy consisted of:

- Paving asbestos-contaminated truck and industrial yards after sampling to determine extent of necessary paving
- Wet sweeping of Alviso streets on a monthly basis
- Locating and removing obvious asbestos sources such as pipes and disposing of them in an off-site landfill
- Placing deed restrictions on landfills after verifying the adequacy of cover material pursuant to National Emission Standards for Hazardous Air Pollutants (NESHAP) Program for asbestos
- Establishing institutional controls to ensure maintenance of remediation measures
- Routine maintenance and monitoring

The paving was completed by 1992 at the four truck yards using asphalt, concrete or chip seal pavement. By November 2004, owners of all four truck yards had elected to excavate and dispose the contaminated soil off-site, thus removing any potential exposure from those properties. On the basis of the results of confirmation soil sampling, EPA concluded that the asbestos contamination was effectively removed from these properties, the remediation was completed, and no further action was required.

The City of San Jose conducted wet sweeping of Alviso streets on a monthly basis after the 1989 ROD was issued. In August 2007, EPA conducted additional activity-based sampling for asbestos in the Alviso community. EPA concluded that asbestos exposures from typical dust generating activities (including vehicular traffic on the streets) were below risk-based levels of concern. Therefore, the streets did not require any further wet sweeping.

At the time of the 1989 ROD, the landfill cap covers were in place and EPA determined that the covers met the asbestos control requirements. Land Use Covenants were placed on the Bixby Technology Center portion in 2004 and a Land Use Covenant[1] was placed on the Summerset Mobile Home Estate portion of the Santos Landfill in 2011. A landfill closure statement for Marshland Landfill was recorded in 2007.

To ensure maintenance of remediation measures, EPA has required, through the deed restriction and Land Use Covenant, the development of Soil Management Plans. These plans include monitoring, inspecting,

[1] The 2011 Explanation of Significant Differences clarified that the term “deed restriction” is now known as a Land Use Covenant.

reporting requirements, and notification and engineering requirements if there is development on the landfill.

On September 28, 2011, an ESD was completed. This ESD removed the requirement for institutional controls on Sainte Claire Landfill and also removed the requirement for monthly wet street sweeping. EPA determined that the asbestos level in the Sainte Claire landfill was below the action level of one percent asbestos in soil based on soil sampling results in 2004 and 2011. The ESD also determined that the existing Water Board requirements and the California Integrated Waste Management Board[2] Titles 14 and 27 regulations meet the deed restriction requirements on the Marshland Landfill. Accordingly, a Five-Year Review is only required for the Marshland and the Santos Landfills.

EPA documented which properties need institutional controls in the 2011 ESD (Table 2). Institutional controls were added to minimize exposure to asbestos in areas, which were determined to pose a risk to human health and the environment.

Table 2. Summary of Institutional Controls

Location	Institutional Control Called for in the Decision Documents	Impacted Parcels(s)	Objective	Title of Instrument Implemented and Date (or planned)
Santos Landfill, Summerset Mobile Estates	Land Use Covenant	Assessor's Parcel No. 015-34-043	Limits land use for the Summerset Mobile Home Park and sets up reporting requirements.	Covenant to restrict use of Property Environmental Restriction, recorded Sept. 14, 2011.
Santos Landfill, Bixby Technology Center	Land Use Covenant	Assessor's Parcel Nos. 015-34-027, 28, 81, 83, 84, and 90	Limits land use for the Bixby Technology Center and sets up reporting requirements.	Covenant and Agreement for Environmental Restriction, recorded October 21, 2004.
Marshland Landfill, Legacy America Center	Governmental Control	Assessor's Parcel Nos. 015-45-011, 025, 027, 028, 029, and 030	Verifies that requirements under Titles 14 and 27 are being implemented, the cover is maintained and cover is routinely inspected.	Titles 14 and 27 CCR regulations implemented by the City of San Jose. Landfill closure recorded Sept. 4, 2007.

[2] California Integrated Waste Management Board's responsibilities have now been transferred to the California Department of Resources Recycling and Recovery (CalRecycle).

2.3. Operation and Maintenance

The City of San Jose Local Enforcement Agency periodically monitors compliance with the institutional controls' objectives. The City of San Jose is the lead enforcement agency and conducts annual inspections of the Site landfills to ensure compliance with the applicable Title 27 standards. In addition, all post-closure land uses must be designed and maintained to protect public health and safety, and must maintain the integrity of the cap. Landfill owners are required to file with the County of Santa Clara Office of the Clerk-Recorder and the City of San Jose, a detailed description of the landfill property including a map, boundaries of fill areas, closure date, location of closure and post-closure plans, and a statement that the future site use is restricted in accordance with the post-closure maintenance plan. In addition, landfill owners are required to: (1) notify prospective owners of the applicable standards, conditions of closure and compliance agreements and (2) notify the City of San Jose within 30 days of any property transfer (EPA 2010).

3. Progress Since the Last Five-Year Review

3.1. Previous Five-Year Review Protectiveness Statement and Issues

The protectiveness statement from the 2015 Five-Year Review for the South Bay Asbestos Superfund Site stated the following:

> *The remedy at South Bay Asbestos Superfund Site is protective of human health and the environment. The risk of exposure to asbestos has been lowered to acceptable levels by removing asbestos-containing material or capping and implementing institutional controls at landfills with asbestos-containing material.*

No issues that affected the protectiveness of the remedy were noted during the 2015 Five-Year Review. The 2015 Five-Year Review included five recommendations to improve performance of the remedy.

Table 3. Status of Recommendations from the 2015 Five-Year Review

Recommendations	Current Status	Current Implementation Status Description	Completion Date (if applicable)
Assess the need for additional work, not specified in the ROD, around the vacant lot and unpaved truck yard where recent soil disturbance is located.	Completed	EPA reviewed previous sampling and air monitoring and concluded that it adequately addressed the vacant lot and truck yards. No future work is needed at the truck yard or vacant lot after reviewing the existing data.	2015
Based on observations during the site inspection, some asphalt parking lots and driveways at the Bixby Tech Center require repair and maintenance. Such activities if conducted will ensure maintenance of the remedy.	Completed	Asphalt parking lots and driveway maintenance and repairs were done based on observations during the site inspection.	2/4/2020
The Legacy America Center Soil Management Plan update and landfill cap inspection occurs every five years. The landfill cap inspection report should be submitted by October 1, 2019. In addition, the Legacy America Center Soil Management Plan needs updates with this due date requirement.	Completed	The Legacy America Center Soil Management Plan and the landfill cap inspection report were submitted.	4/3/2020
The Bixby Technology Center landfill cap inspection report occurs every five years. The next landfill cap inspection report should be submitted by October 1, 2019.	Completed	The Bixby Technology Center landfill cap inspection report was submitted.	2/25/2019
The Summerset Mobile Estates inspection report occurs every thirty months. The next inspection report should be submitted to EPA by October 1, 2019.	Incomplete	The Summerset Mobile Estates inspection report still needs to be prepared and submitted.	

3.2. Work Completed at the Site During this Five-Year Review Period

EKI, Inc. is the consultant for the Bixby Tech Center Marshland Landfill cap. EKI, Inc. submitted a January 2019 landfill cap inspection report that identified minor cracks and evidence of normal wear and tear on the eastern half of the Site (EKI 2019), although the cracks and damage were spread all over the landfill cap as documented in the 2015 Five-Year Review Report (EPA 2015). EKI, Inc. submitted a March 2020 landfill cap inspection report for the Five-Year Review Report (EKI 2020). Bixby Tech Center paid a contractor to repair the cracks in the asphalt landfill cap. EKI confirmed that the cracks in the eastern part of the asphalt landfill cap had been repaired and resurfaced. In addition, EKI, Inc. identified two issues that should be addressed:

- Operational issues were identified with twelve passive methane gas vents atop posts. The vents were observed to be malfunctioning and therefore, not allow methane gas to vent from the soil.

- Exposed joints within the concrete surface were observed at three loading docks, located in between each set of buildings.

The America Center Maintenance Association submitted the Soil Management Update Report on April 3, 2020. The report is due every five years and it includes a site inspection, a review of the Soil Management Plan, and a review of the Site activities to assess if the soil plans and management are still working as intended. The landfill cap inspection report did not identify any significant erosion or damage to the landfill cap except for a settlement crack near one office building at 6201 America Center Drive. As noted in the report, this crack did not extend to the clay layer of the cap and was scheduled to be repaired soon.

4. Five-Year Review Process

4.1. Community Notification and Site Interviews

4.1.1. Five-Year Review Public Notice

EPA published a public notice in the Santa Clara Weekly on February 25, 2020, stating that there was a Five-Year Review and inviting the public to submit any comments to the EPA. The Five-Year Review report will be available at the following locations:

Alviso Branch Library
5050 North First Street
San Jose, California 95002
408-253-3626

EPA Region 9 Superfund Records Center
75 Hawthorne Street
San Francisco, CA 94105
415-820-4700

4.1.2. Site Interviews

During the Five-Year Review process, an interview was conducted to document any perceived problems or successes with the remedy that has been implemented to date. Mark Wheeler, the consultant for the America Center, submitted responses on April 3, 2020. Mr. Wheeler discussed the maintenance activities for the remedy over the past five years and the major construction activities that breached the cap. All activities were monitored for compliance with the Soil Management Plan. Mr. Wheeler noted that although there are no trespassing signs posted, hikers occasionally walk through the area. Security patrols for America Center will approach and tell people to leave the area.

4.2. Data Review

No analytical data were collected during this Five-Year Review Period.

4.3. Site Inspection

EPA and USACE conducted a Site inspection on February 4, 2020. No active remediation is currently being conducted on site.

The EPA and USACE inspectors visited the Legacy America Center site, the Aloft Hotel, and the truck yards located on State Street in Alviso to inspect asphalt caps and view the status of each parcel. All asphalt caps associated with the site appear to be in good condition and well maintained (Appendix F). The inspectors were unable to access vents at the America Center that were included in the 2015 Five-Year Review report. All wells located near the Aloft Hotel are secured, locked and in good condition and the passive methane gas vents located at the Bixby Technology Center appear to be in good working condition although several vents were not moving. The observed components of the remedy appear to be working as designed.

5. Technical Assessment

5.1. Question A: Is the remedy functioning as intended by the decision documents?

Yes, the remedy is operating and functioning as intended by the ROD and ESD for the Overall Site.

The Santos and Marshland Landfill caps have achieved the remedial action objectives to prevent direct contact with asbestos-contaminated soil and debris. EPA, CalRecycle, Regional Water Board and the City of Jose have monitored operation and maintenance of the landfill caps. EPA removed asbestos-contaminated soil and paved four truck yards as part of the remedy. The truck yards are still in service. No further action is required and the remedy for the truck yards is complete.

The ROD required institutional controls for the Marshland and Santos Landfills. Land Use Covenants were placed on the Gold Street Technology Center portion in 2004 and the Summerset Mobile Estates portion in 2011 of the Santos Landfill. The Bixby Tech Center at the Marshland Landfill had a deed restriction placed in 2007. Institutional controls are in place at the Legacy America Center and at the Marshland Landfill to maintain and routinely inspect the cap. The parking lots at the Legacy America Center appear to be well maintained with little to no cracking or damage observable during the site inspection.

5.2. Question B: Are the exposure assumptions, Toxicity Data, Cleanup Levels, and Remedial Action Objectives Used at the Time of Remedy Selection Still Valid?

Yes. There are no substantive regulatory changes since the previous Five-Year Review. No chemical specific regulations or health-based standards for asbestos existed when the 1989 ROD was signed. EPA used quantitative risk characterization to determine the cleanup goals for the Site.

There have been no changes to the physical conditions of the Site that would negatively affect the protectiveness of the remedy. The removal of the Ring Levee in 1994, and paving truck yards in Alviso in 1992 eliminated or controlled major sources of asbestos exposure for the community. All landfill caps are intact and well maintained.

5.3. Question C: Has Any Other Information Come to Light That Could Call Into Question the Protectiveness of the Remedy?

No weather-related events or natural disasters (flooding or earthquakes) have affected the protectiveness of the remedy. The United States Government Accountability Office 2019 report has an interactive map on potential climate change impacts on Superfund Sites. South Bay Asbestos Superfund Site is susceptible to the following hazards:

- Highest flood hazard
- Flooding at high tide with no additional sea level rise

EPA should continue monitoring the operation and maintenance of landfill caps and ensuring landfill cap inspection reports are submitted on time. There is no other information that calls into question the protectiveness of the remedy.

6. Issues/Recommendations

There are no issues that affect protectiveness.

6.1. Other Findings

Bixby Tech Center is responsible for repairing any passive methane gas vents that are not functioning and allowing methane gas to vent. They are responsible for repairing exposed joints within the concrete surface at three loading docks. EPA and USACE identified cracks in the northern portion of the asphalt landfill cap that will need to be repaired before the 2025 Five-Year Review.

The following recommendation improves reliability of the remedy but does not affect current and/or future protectiveness: Summerset Mobile Estates did not submit a landfill cap inspection report, which is scheduled to occur every thirty months, for the 2020 EPA Five-Year Review Report. During the EPA and USACE 2019 Site Inspection, the asphalt cap was in excellent condition with no cracks or damage evident. EPA should consider conducting an intermediate cap inspection in 2023 if the Summerset Mobile Estates landfill cap inspection report is not submitted before then.

7. Protectiveness Statement

Table 4. Protectiveness Statement

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: The remedy at South Bay Asbestos Superfund Site currently protects human health and the environment because the risk of exposure to asbestos has been lowered to acceptable levels by removing asbestos-containing material or capping and implementing institutional controls at landfills with asbestos containing material.

8. Next Review

The next Five-Year Review report for the South Bay Asbestos Superfund Site is required five years from the completion date of this review.

Appendix A: List of Documents Reviewed

America Center Maintenance Association, 2020, 2020 Soil Management Plan Update, America Center, San Jose, California, April 3, 2020

Crawford Consulting Inc. 2015. 2015 Soil Management Plan Update for America Center, San Jose, California, America Center, South Bay Asbestos Superfund Site, June 1, 2015.

EKI Environment & Water 2019. Annual Cap Status Assessment Report, January 2019, Bixby Technology Center, South Bay Asbestos Superfund Site, February 25, 2019.

EKI Environment & Water 2020. Annual Cap Status Assessment Report, March 2020, Bixby Technology Center, South Bay Asbestos Superfund Site, March 12, 2020.

EKI Environment & Water 2015. Five-Year Cap Status Assessment Report, April 2015, Bixby Technology Center, South Bay Asbestos Superfund Site, April 23, 2015.

EPA (United States Environmental Protection Agency), 1988. EPA Superfund Record of Decision: *South Bay Asbestos Site EPA ID: CAD980894885 OU1 Alviso, California*. September 29.

EPA, 1991. EPA *Superfund Record of Decision Amendment: South Bay Asbestos Site EPA ID: CAD980894885 OU1 Alviso, California*. June 26.

EPA, 1993. *Superfund Explanation of Significant Differences to the Record of Decision, South Bay Asbestos Site EPA ID: CAD980894885 OU2 Alviso, California*. October 18.

EPA, 1998. Preliminary Close Out Report, South Bay Asbestos Site EPA ID: CAD980894885 San Jose, California. September 23.

EPA, 2000. EPA *Five-Year Review Report, South Bay Asbestos Site EPA ID: CAD980894885 San Jose, California*. September 29.

EPA, 2005. *Second Five-Year Review Report for South Bay Asbestos Site, San Jose, California*. September 27.

EPA, 2010. *Third Five-Year Review Report for South Bay Asbestos Site, San Jose, California*. September 27.

EPA, 2011. *Superfund Explanation of Significant Differences to the Record of Decision, South Bay Asbestos Site EPA ID: CAD980894885 San Jose, California*. September 28.

EPA, 2015. *Fourth Five-Year Review Report for South Bay Asbestos Site, San Jose, California*, September 10.

GAO, 2019. Interactive Graphic: Superfund Sites and Climate Change, South Bay Asbestos Area, U.S. Government Accountability Office, https://www.gao.gov/multimedia/GAO-20-73/interactive, accessed February 2020.

Appendix B: Site Chronology

Event	Date
Three landfill areas within the Site receive asbestos waste (from asbestos-cement pipe manufacturing plant)	1953-1982
Congress enacts the Comprehensive Environmental Response, Compensation, and Liability Act	1980
Large flood occurs in Alviso; City of San Jose constructs Ring Levee for protection	March 1983
Presence of asbestos contamination identified in Alviso and Ring Levee	August 1983
The Site is proposed for the NPL	October 1984
The Site is finalized on the NPL	June 1986
EPA begins spraying Ring Levee with polymer dust suppressant	May 1986
EPA begins Remedial Investigation/Feasibility Study	1986
Ring Levee ROD (Ring Levee Capped in Place)	September 29, 1988
EPA issues Feasibility Study Report	1989
Overall Site ROD	September 29, 1989
Ring Levee Amendment (ROD Amendment, Ring Levee Removal)	June 26, 1991
EPA issues Unilateral Administration Orders to truck yard owners	September 1991
Remedial design plans submitted for paving truck yard owners	1992
Remedial action completed (paving) at truck yard areas (Overall Site)	December 1992
Ring Levee ESD signed	October 18, 1993
Removal of Ring Levee	December 1993
Removal Completion Report for temporary levee	February 1997
Approval of remedial action (removal of asbestos containing soil material) at 3 of 4 truck yard areas (Overall Site)	May 1998
Preliminary Close Out Report	September 1998
First Five-Year Review	September 29, 2000
Removal project completed at Environmental Education Center	November 2003
Deed restriction placed on Bixby Technology Center portion of Santos Landfill (WIX/NSJ Real Estate Limited Partnership, 2004)	October 2004
Approval of remedial action (removal of asbestos-containing soil material) at fourth truck yard area (Overall Site)	November 2004
Second Five-Year Review	September 2005
Field Sampling and Quality Assurance Project Plans for the Site Exposure Assessment is submitted	August 2007
EPA conducts Activity-Based Sampling (ABS) for asbestos	August 2007
Marshland Landfill/Legacy America Center files Title 27 Landfill Closure report with Santa Clara County Recorder and the City of San Jose (Crawford Consulting Inc., 2007)	September 2007

Event	Date
Construction activities for two commercial buildings at Marshland Landfill/Legacy America Center begin	December 2007
Electrical utility trenching activities conducted by PG&E at Bixby Technology Center	July 2009
Five-Year Cap Inspection Report for Bixby Technology Center (formerly Legacy) submitted to EPA	June 2010
EPA completes the *Asbestos Exposure Assessment and Risk Evaluation Summary Report* based on activity-based sampling results for the Site.	August 2010
Third Five-Year Review completed	September 22, 2010
Explanation of Significant Difference completed	September 28, 2011
Construction of asphalt streets within the Summerset Mobile Home Estate completed	September 13, 2013
A Five-Year Cap Status Assessment Report for the Bixby Technology Center (currently called Gold Street Technology Center) completed	April 2015
Soil Management Plan and for the Legacy America Center at Marshland Landfill submitted	June 1, 2015
Fourth Five-Year Review Completed	September 10, 2015
Bixby Tech Center Five-Year Review Cap Status Assessment Report, March 2020	March 12, 2020
2020 Soil Management Plan Update, America Center, Report submitted	April 3, 2020

Appendix C: ARAR Assessment

Section 121(d)(1)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act requires that remedial actions at Comprehensive Environmental Response, Compensation, and Liability Act sites attain (or justify the waiver of) any federal or state environmental standards, requirements, criteria, or limitations that are determined to be legally applicable or relevant and appropriate requirements (ARARs). Federal ARARs may include requirements promulgated under any federal environmental laws. State ARARs may only include promulgated, enforceable environmental or facility-siting laws of general application that are more stringent or broader in scope than federal requirements and that are identified by the state in a timely manner. ARARs are identified on a site-specific basis from information about the chemicals at the site, the remedial actions contemplated, the physical characteristics of the site, and other appropriate factors. ARARs include only substantive, not administrative, requirements and pertain only to onsite activities. There are three general categories of ARARs: chemical-specific, location-specific, and action-specific.

There are no cleanup levels for chemical-specific ARARs identified as existing ARARs.

Federal and State laws and regulations other than the chemical-specific ARARs that have been promulgated or changed over the past five years are described in A-1. The table does not include those ARARs identified from the 1988 and 1991 RODs that are no longer pertinent. There have been no revisions to laws or regulations that affect the protectiveness of the remedy.

The following ARARs in the 1989 ROD have not changed since the last Five-Year Review; and therefore, do not affect protectiveness:

- Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2, §§ 305.3.1
- Clean Water Act (CWA) – Protection of Wetlands and Floodplains, CWA Section 404 (33 USC § 1344); 40 CFR § 230 *et seq.*, 40 CFR § 6.302(a), (b), and Appendix A
- Executive Order (EO) 11988 (Floodplain Management)
- EO 11988 (Wetlands Protection)
- McAteer-Petris Act, Title 7.2 Cal. Government Code §§ 66600 *et seq*.; 14 Cal. Administrative Code §§ 10110 *et seq.*
- Toxic Substances Control Act and Asbestos Hazard Emergency Responses Act (AHERA) regulations, Toxic Substance Control Act Subchapter II, 40 CFR 763
- Clean Air Act and NESHAPs, 40 CFR Part 61 Subpart M, 40 CFR § 61.153
- National Historic Preservation Act; Historic Sites Act; Archaeological and Historic Preservation Act, 54 USC §§ 300101 *et seq.*
- EO 11593 (Protection and Enhancement of the Cultural Environment), 40 CFR § 6.301; 36 CFR Part 800 (since repealed)
- Endangered Species Act- Section 7, 16 USC 1531 *et seq.*
- Endangered Species Act- Section 7, 50 CFR §§ 17 and 402

The following ARARs in the 2011 ESD have not changed since the last Five-Year Review; and therefore, do not affect protectiveness:

- Title 14 California Code of Regulations – Landfill Inspections, Title 14 CCR § 18083 Note that this regulation was amended in 2015, but the amendment made changes to compostable materials not at issue at South Bay Asbestos and do not affect protectiveness of the remedy.
- California Code of Regulations – Post-closure Landfill Land Use, Title 27 CCR § 21190 (Previously Title 14 CCR § 17796)
- California Code of Regulations – Landfill Closure, Title 27 CCR, § 21170 (Previously Title 14 CCR § 17787)
- California Code of Regulations – Landfill Property Transfer, Title 27 CCR § 21200(a) (Previously Title 14 CCR § 17792)
- California Code of Regulations- Post-closure Landfill Activities, Title 27 CCR §§ 21100 *et seq.* (Previously Title 14 CCR § 17760)

Table A-1. Applicable or Relevant and Appropriate Requirements Evaluation from the 1989 ROD

Original ARAR	Document	Original ARAR requirement	Revised requirement	Revision Date (between Sept. 2010-present)	Effect on Protectiveness
Occupational Safety and Health Act (OSHA)	OSHA Labor Code 29 CFR § 1910.1000	Rule defines an employee's exposure limits to substances for air contamination	Revises entries for silica, crystalline cristobalite, respirable dust"; "Silica, crystalline quartz, respirable dust"; Silica, crystalline tripoli (as quartz), respirable dust"; and "Silica, crystalline tridymite, respirable dust And dust mineral limits, "Beryllium and beryllium compounds (as Be)"	Rule 1910, 1000 amended on March 25, 2016. Mineral dust limits corrected on May 18, 2016 Be limits corrected on January 9, 2017 Effective date delayed to May 20, 2017 on Mar. 21, 2017.	None.
Occupational Safety and Health Act (OSHA)	OSHA Labor Code 29 CFR § 1910.1001	Provides monitoring program for workers to occupational exposures to asbestos	Provides only ministerial changes to the section on medical surveillance of employees.	84 Fed. Reg, 21416 on May 14, 2019	None.
U.S. Fish and Wildlife Service (USFWS) - Mitigation Policy	46 Fed. Reg. 7644-7663 (January 23, 1981)	Recommendations on mitigating the adverse impacts of land and water developments on fish, wildlife, plants, and their habitats since 1981.	Revision to tighten the definition of mitigation and to update goals of net conservation gain	Revision made on November 21, 2016 (81 Fed. Reg. 83440) and withdrawn on July 30th, 2018 (83 FR 36472) to the January 23, 1981 requirements.	None

Appendix D: Press Notice

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DECLARATION

I am a resident of Los Angeles County, over the age of eighteen years and not a party to or interested in the matter noticed.

The notice, of which the annexed is a printed copy appeared in the:

SANTA CLARA WEEKLY

On the following dates:

02/05/2020

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Los Angeles, California, this

12th day of February 2020

Curtis Small
Signature

3331816
"The only Public Notice which is justifiable from the standpoint of true economy and the public interest, is that which reaches those who are affected by it"

A0000053544428

SOUTH BAY ASBESTOS SUPERFUND SITE FIVE-YEAR REVIEW

When a U.S. Environmental Protection Agency (EPA) cleanup remedy leaves some waste in place or the remedy takes longer than five years to complete, the Superfund law requires an evaluation of the protectiveness of the remedy every five years. The purpose of the Five-Year Review (FYR) is to evaluate the current status of the remedy, assess the effectiveness of the institutional controls, and ensure that the remedy is protective of human health and the environment.

The South Bay Asbestos Superfund site (site) is in the Alviso district of San Jose, California. The site was placed on the National Priorities List in 1986 to address asbestos in the soil. Asbestos-containing soil was used to construct a ring levee to protect the low-lying areas of Alviso from flooding. In addition, Alviso landfills were thought to have received asbestos waste from an asbestos cement pipe manufacturing plant. Furthermore, local truck yards may have been contaminated with asbestos-containing soil materials from the ring levee that had blown onto the truck yards.

EPA has completed cleanup activities for the ring levee, landfills and truck yards. As a result, EPA, for this Five-Year Review, is only evaluating operations and maintenance of landfill caps to stabilize asbestos-containing material and land-use covenants at landfills with asbestos-containing material.

The 2015 FYR found that cleanup actions at the site were protective of human health and the environment because the major sources of asbestos exposure had been removed or are being controlled.

For more site information, visit the South Bay Asbestos website: https://www.epa.gov/superfund/southbayasbestos

The site information repository contains paper copies of project reports, fact sheets and other key documents. This repository is located at:

Alviso Branch Library
5050 North First Street
San Jose, California 95002
(408) 263-3626
Open Monday to Saturday

The Five-Year Review report will be completed no later than September 30, 2020. EPA will post the report on the site webpage and send it to the site information repository listed above.

For more information contact Grace Ma, Remedial Project Manager, (415) 947-4212, ma.grace@epa.gov

Appendix E: Interview Forms

Five-Year Review Interview Record			
Site:	South Bay Asbestos Superfund Site	**EPA ID No:**	0902250

Interview Type: *Written*

Date: April 3, 2020
Time: 11 AM PST

Interviewers		
Name	**Title**	**Organization**
William Gardiner	Risk Assessor	USACE

Interviewees				
Name	**Organization**	**Title**	**Telephone**	**Email**
Mark Wheeler	Crawford Consulting, Inc.	Principal Geologist	408-287-9934	mark@crawfordconsulting.com

Summary of Conversation

1) How are you involved with the South Bay Asbestos Superfund project?

I have been involved as the environmental consultant / project geologist for the Highway 237 Landfill since 1987, working initially for Cargill Salt and then SteelWave (formerly Legacy Partners Commercial) when the property was transferred in 2000. For Cargill Salt I was involved with preliminary phases of landfill closure and provided technical information about the landfill to EPA during the SBAA site investigation.

For SteelWave I have been involved as the technical program manager for formal closure of the landfill and for the America Center post-closure development project on the landfill. I coordinated the geotechnical, environmental, and Title 27 landfill closure, post-closure, and monitoring programs for development of the pile-supported, 900,000-square-foot commercial business park on the landfill. I prepared and reviewed technical documentation for the Title 27 Post-Closure Land Use Proposal, Environmental Impact Report, and other permitting-level and project design submittals.

I have been responsible for ensuring that the Soil Management Plan (SMP) developed in 2000 for landfill closure and post-closure development on the site is properly implemented and have been the primary liaison with EPA for the Highway 237 Landfill / America Center site. I have also been responsible for conducting the 5-year SMP updates and landfill cover inspections.

I worked with Eric Yunker, the EPA caseworker for the SBAA at the time the Highway 237 Landfill was being closed, to confirm that the prescriptive Title 27 landfill "cap" (final cover) met the NESHAPS minimum thickness for capping asbestos-containing materials

and that the Title 27 Landfill Closure Statement recorded on deed for the landfill met EPA's deed restriction requirements for the SBAA.

2) Are you aware of any events, incidents, or activities at the site such as vandalism, trespassing, or emergency responses from local authorities? If so, please give details.

The 25.3-acre Open-Space Preserve area of the America Center site is maintained as Burrowing Owl habitat and human intrusion is restricted. Although there are no-trespassing signs posted there are occasional intrusions by hikers. Security patrols for America Center will approach and request anyone who doesn't have authority to be there to leave the area.

3) Are you aware of any activities that could have impacted or penetrated the cap (e.g. new construction, redevelopment, parking) that may have occurred in the last 5 years? If so, please give details.

Construction of Phase II of the America Center development project from 2016 to 2018 involved penetration of the cap for piling installation and removal and replacement in areas of waste excavation and relocation onsite. All these activities were conducted with notification to EPA and using protocols and measures for air monitoring and soil management prescribed by the SMP.

There have also been several maintenance/repair activities and construction activities that involved excavation into development fill soils overlying the clay layer. These activities were monitored during the work to confirm that the clay layer was not encountered or compromised.

For more detailed information please refer to the 2020 Soil Management Plan Update report for America Center.

4) Do you feel well informed about the site's activities and progress?

Yes. I routinely communicate with the property owners and managers about site activities and am usually on site at least once a month for site inspections or meetings. I am also involved in routine communications from the landfill agencies (the Local Enforcement Agency, CalRecycle, and the Regional Water Quality Control Board) for ongoing environmental compliance programs such as landfill post closure monitoring and maintenance.

Appendix F: Site Inspection Report and Photos

Trip Report
South Bay Asbestos Superfund Site, Alviso, California

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1. INTRODUCTION

a. Date of Visit: 4 February 2020

b. Location: Alviso, California

c. Purpose: A site visit was conducted to visually inspect and document the conditions of the remedy, the site, and the surrounding area for inclusion into the Five-Year Review Report.

d. Participants: *List all attendees*

Grace Ma	USEPA Region 9 Remedial Project Manager	(415) 947-4212
Benino McKenna	USACE Seattle District Hydrogeologist	(206) 764-3803

2. SUMMARY

A site visit to the South Bay Asbestos Superfund Site was conducted on 4 February 2020. Participants met on site for preliminary briefings and health and safety check in. The site is currently comprised of a combination of commercial business office buildings, hotel buildings with employee/customer parking and residential areas. No active remediation is currently being conducted on site. Participants toured the site and observed components of the remedy.

3. DISCUSSION

On 3 February, Ben McKenna flew to San Jose, California to meet with multiple parties for Five Year Review Site Visits at multiple sites. On 4 February Ben McKenna met the USEPA Regional Project Manager at the site. The weather was sunny and cool (temperature approximately 50º F). The site is accessed from State Route 237 West and Gold Street and is located approximately 7.5 miles northwest of downtown San Jose.

The participants arrived at the Legacy America Center site at approximately 1100 and proceeded to walk around the site to note the features of the remedy and any redevelopment work that may be affecting the integrity of the cap. The parking lot of the Legacy America Center appeared to be well-maintained with little to no cracking or damage observable.

The vegetative cover areas that cover Mound 1 and 2 that have been designated as Burrowing Owl Habitat displayed proper signage and showed no signs of damage or erosion. Building 6201 in the Legacy America Center appeared to be undergoing minor subsurface repairs to

public access areas. Additional subsurface activities was observed for landscaping work. The newly built Aloft Hotel's parking lot did not show any signs of erosion or cracking and the only evidence of subsurface work was the outdoor pool which extended to a depth of 4.6 feet below ground surface. All existing wells were secured, locked and in good condition.

Next the participants toured the Gold Street Technology Center (aka Bixby Technology Center) which consists of commercial business office buildings, recreation areas and the Summerset Mobile Home Estate. The parking lot of the GSTC appeared to be well-maintained with little to no cracking or damage observable. Evidence of recent repair work was observed that may potentially correspond to recent cap assessment reports recommending areas of repair. Passive methane gas vents were observed in the parking lot and were spinning freely in the breezy conditions. Pedestrian sidewalks that circle the office buildings were noted to have recent grinding work to mitigate tripping hazards and may be an indicator of potential settling.

The participants next drove to the Summerset Mobile Home Estates to visually inspect the condition of the asphalt cap. Visual observations showed the asphalt cap to be in excellent condition with no cracks or damage evident.

Lastly the participants drove north to the town of Alviso to State Street to view the offsite truck yards that are included in the South Bay Asbestos Site. The truck yards appeared to still be in service with several adjacent parcels undergoing redevelopment.

After viewing the offsite truck yards in Alviso the site inspection was concluded and Mr. McKenna and the USEPA Regional Project Manager left the site by 1400.

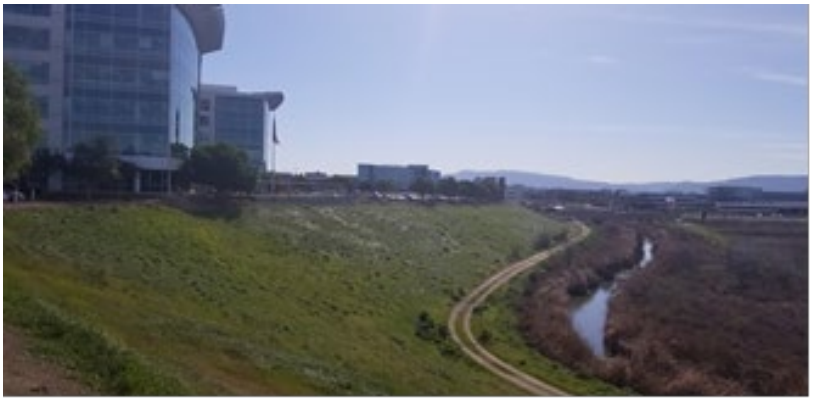
4. ACTIONS

The U.S. Army Corps of Engineers will incorporate information obtained from the site visit into the Five-Year Review report.

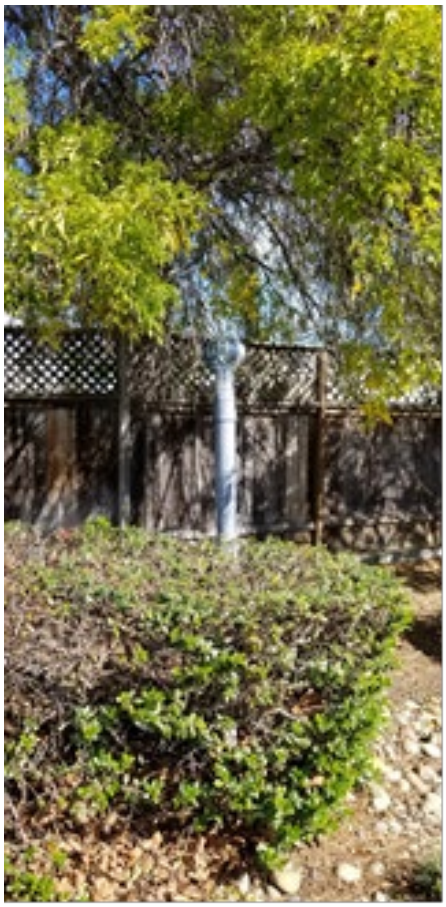
Benino McKenna, P.G.
Geologist/Hydrogeologist
CENWS-ENT-G

Legacy America Center Vegetative Area & Habitat Looking North


Legacy America Center Vegetative Area with Mound 1 and 2


Legacy America Center Landfill Slope & Access Road (Looking South)

Legacy America Center Subsurface Work at 6201 (Building 2)



GSTC Passive Landfill Gas Vent

GSTC Access Road with Patchwork Repairs

GSTC Asphalt Cover (Looking Southeast)

GSTC Asphalt Cover with Bldg 2100

GSTC Bldg 2150 Sidewalk Grinds (Potential Settling)

GSTC East Lot Recently Resealed

GSTC Bldg 2190 Northern Lot Showing Minor Cracking

Summerset Mobile Estates Asphalt Cap

Alviso Proposed Development (State Street)


Alviso Demolished Residential Lot